Claims:

1. A device for the protection of an electrode (4) during the resistance welding of workpieces, particularly metal sheets (6, 7), including a strip (1) placed over the electrode (4), preferably in a manner displaceable relative to the same, characterized in that the strip (1) is comprised of at least two superimposed metal strips (2, 3) made of different materials.

2. A protection device according to claim 1, characterized in that the material of the metal strip (2) facing the electrode (4) exhibits little tendency to adhering to the material of the electrode (4), and the material of the metal strip (3) facing the workpiece, particularly metal sheet (6, 7), exhibits little tendency to adhering to the material of the workpiece.

3. A protection device according to claim 1 or 2, characterized in that the material of the metal strip (2) facing the electrode (4) is selected from the group of ferrous metals, or an alloy having its main component selected from the group of ferrous metals, and the material of the metal strip (3) facing the workpiece to be welded, particularly metal sheet (6, 7), is made of copper or a copper alloy.

4. A protection device according to any one of claims 1 to 3, characterized in that the material of the metal strip (2, 3) and, in particular, of the metal strip (2) facing the electrode (4) has a melting temperature of above 1000°C and/or a conductivity of above 1 $m/(\Omega*mm^2)$.

5. A protection device according to any one of claims 1 to 4, characterized in that the metal strips (2, 3) of the electrode protection strip are exclusively positively connected.

6. A protection device according to any one of claims 1 to 5, characterized in that the metal strips (2, 3) are connected by rabbeting, gluing, stamping or welding.

7. A protection device according to any one of claims 1 to 6, characterized in that the metal strips (2, 3) are superimposed

in a congruent manner.

8. A protection device according to any one of claims 1 to 7, characterized in that the metal strips (2, 3) are arranged so as to be displaceable relative to each other.

9. A protection device according to any one of claims 1 to 8, characterized in that the metal strips (2, 3) are arranged so as to be displaceable at different speeds.

10. A spot-welding tool for the resistance-welding of workpieces, particularly metal sheets (6, 7), including at least one electrode (4), characterized in that a pressure element (9) for holding down the workpieces, particularly metal sheets (6, 7), is arranged on the electrode (4) in the region of the electrode cap (5) to prevent, in particular, process-dependent warping or arching of the workpieces, particularly metal sheets (6, 7).

11. A spot-welding tool for the resistance-welding of workpieces, particularly metal sheets (6, 7), including at least one electrode (4) and a winding mechanism for winding and unwinding a strip (1) for the protection of said at least one electrode (4), characterized in that a pressure element (9) is arranged on the electrode (4) in the region of the electrode cap (5), which pressure element (9) includes a guide (10) for the strip (1) and is connected with the electrode (4) in a manner movable in the longitudinal direction thereof so as place the strip in a spaced-apart relationship to the electrode (4).

12. A spot-welding tool according to claim 10 or 11, characterized in that the pressure element (9) projects beyond the electrode in the state of relief.

13. A spot-welding tool according to any one of claims 10 to 12, characterized in that means for the application of force on the pressure element (9) are provided such that the pressure element (9) exerts a pressure or force on the workpieces, particularly metal sheets (6, 7), during operation.

14. A spot-welding tool according to claim 13, characterized in

that said means for the application of force is comprised of an elastic element and, for instance, a spring or an adjustment means (15).

15. A spot-welding tool according to claim 13 or 14, characterized in that means for the adjustment of the force exerted on the pressure element (9) are provided.

16. A spot-welding tool according to any one of claims 10 to 15, characterized in that a supporting element (13) is arranged on the electrode (4), which supporting element preferably includes guide channels (14) for the reception of the strip (1).

17. A spot-welding tool according to any one of claims 10 to 16, characterized in that the guide (10) for the strip (1) within the pressure element (9) is configured such that the strip (1) projects beyond an end face (12) of the pressure element (9).

18. A spot-welding tool according to any one of claims 10 to 17, characterized in that the pressure element (9) is designed in the form of a metal ring having a lower electric conductivity than the electrode (4).

19. A spot-welding tool according to any one of claims 10 to 18, characterized in that the pressure element (9) is designed as a sensor for the detection of the contact of the spot-welding tool (8) with the workpieces, particular metal sheet (6, 7).

20. A resistance-welding method by which two workpieces, particularly metal sheets, are welded with each other using spot-welding tools, wherein at least two electrodes are pressed against each other and powered with energy with the workpieces, particularly metal sheets, being interposed, characterized in that the contact of the spot-welding tool with the workpiece is detected by an element, particularly pressure element, movably arranged on an electrode and projecting beyond the electrode and, as such contact is detected, the element is being displaced relative to the electrode until the electrode contacts the workpiece.

21. A method according to claim 20, characterized in that the

detection of the contact of the element, particularly pressure element, with the workpiece is realized using electric energy to power the element, particularly pressure element, or the strip for the protection of the electrodes guided within the pressure element.

22. A method according to claim 20 or 21, characterized in that the detection of the contact of the element, particularly pressure element, with the workpiece is effected mechanically.